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System Clock Configuration Guide

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Contact Information

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World Wide Web

You can access the most current Raisecom product information on the World Wide Web at the following URL:

<http://www.raisecom.com>

Feedback

Comments and questions about how the ... system software works are welcomed. Please review the FAQ in the related manual, and if your question is not covered, send email by using the following web page:

<http://www.raisecom.com/en/xcontactus/contactus.htm>.

If you have comments on the ... specification, instead of the web page above, please send comments to:

export@raisecom.com

We hope to hear from you!

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Release Notes

Date of Release	Manual Version	Software Version	Revisions

Preface

About This Manual

This manual introduces primary functions of the configuration management software for RC series products.

Who Should Read This Manual

This manual is a valuable reference for sales and marketing staff, after service staff and telecommunication network designers. For those who want to have an overview of the features, applications, structure and specifications of ... device, this is also a recommended document.

Relevant Manuals

《Raisecom NView System User Manual》

《Raisecom Nview System Installation and Deployment Manual》

《... User Manual》

《... Commands Notebook》

Organization

This manual is an introduction of the main functions of ... EMS. To have a quick grasp of the using of the EMS of ... , please read this manual carefully. The manual is composed of the following chapters

Chapter 1 Overview

This chapter briefly introduces the basic function of ...

Chapter 2 Configuration Management

This chapter mainly introduces the central site configuration management function of the

Chapter 3 Performance Management

This chapter focuses on performance management function of

Chapter 4 Device Maintenance Management

This chapter introduces the device maintenance management function of

Appendix A Alarm Type

The alarm types supported by

Compliance

The RC series products developed by Raisecom are strictly complied with the following standards as well as ITU-T, IEEE, IETF and related standards from other international telecommunication standard organizations:

YD/T900-1997 SDH Equipment Technical Requirements - Clock

YD/T973-1998 SDH 155Mb/s and 622Mb/s Technical conditions of optical transmitter module and receiver module

YD/T1017-1999 Network node interface for the Synchronous Digital Hierarchy (SDH)

YD/T1022-1999 Requirement of synchronous digital hierarchy (SDH) equipment function

YD/T1078-2000 SDH Transmission Network Technique Requirements-Interworking of Network Protection Architectures

YD/T1111.1-2001 Technical Requirements of SDH Optical Transmitter/Optical Receiver Modules——2.488320 Gb/s Optical Receiver Modules

YD/T1111.2- 2001 Technical Requirements of SHD Optical Transmitter/Optical Receiver Modules——2.488320 Gb/s Optical Transmitter Modules

YD/T1179- 2002 Technical Specification of Ethernet over SDH

G.703 Physical/electrical characteristics of hierarchical digital interfaces

G.704 Synchronous frame structures used at 1544, 6312, 2048, 8448 and 44 736 kbit/s hierarchical levels

G.707 Network node interface for the synchronous digital hierarchy (SDH)

G.774 Synchronous digital hierarchy (SDH) - Management information model for the network element view

G.781 Synchronization layer functions

G.783 Characteristics of synchronous digital hierarchy (SDH) equipment functional blocks

G.784 Synchronous digital hierarchy (SDH) management

G.803 Architecture of transport networks based on the synchronous digital hierarchy (SDH)

G.813 Timing characteristics of SDH equipment slave clocks (SEC)

G.823 The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy

G.825 The control of jitter and wander within digital networks which are based on the synchronous digital hierarchy (SDH)

G.826 End-to-end error performance parameters and objectives for international, constant bit-rate digital paths and connections

G.828 Error performance parameters and objectives for international, constant bit-rate synchronous digital paths

G.829 Error performance events for SDH multiplex and regenerator sections

G.831 Management capabilities of transport networks based on the synchronous digital hierarchy (SDH)

G.841 Types and characteristics of SDH network protection architectures

G.842 Interworking of SDH network protection architectures

G.957 Optical interfaces for equipments and systems relating to the synchronous digital hierarchy

G.691 Optical interfaces for single channel STM-64 and other SDH systems with optical amplifiers

G.664 Optical safety procedures and requirements for optical transport systems

I.731 ATM Types and general characteristics of ATM equipment

I.732 ATM Functional characteristics of ATM equipment

IEEE 802.1Q Virtual Local Area Networks (LANs)

IEEE 802.1p Traffic Class Expediting and Dynamic Multicast Filtering

IEEE 802.3 CSMA/CD Access Method and Physical Layer Instruction

Chapter 1 System Clock Management configuration

1.1 System clock management overview

Raisecom offers two ways for configuring system time: first, use SNTP protocol to make the switch system time accord with SNMP host time, configure the SNMP protocol time for synchronization to Greenwich time, and turn it to local time according to the system time zone configuration; second, configure the system time manually to local time.

1.2 System clock configuration function

1.2.1 Default system clock configuration

Function	Default value
Default time	2000-01-01 08:00:00
Default time zone excursion	+08:00
Default summer time function	Disable

1.2.2 Configure system clock function

Step	Command	Description
1	clock set <1-24> <0-60> <0-60> <2000-2199> <1-12> <1-31>	Configure system time, in turn they are: hour, minute, second, year, month, day
2	show clock	Show the configuration

1.2.3 Configure time zone management function

Step	Command	Description
1	clock timezone {+ -} <0-11> <0-59>	Configure system time zone: <ul style="list-style-type: none"> • + eastern hemisphere • - western hemisphere • <0-11> time zone excursion, hour • <0-59> time zone excursion,

		hour By default it is Beijing time, that is eastern hemisphere 8h whole.
2	clock set <1-24> <0-60> <0-60> <2000-2199> <1-12> <1-31>	Configure system time, in turn they are: hour, minute, second, year, month, day
3	show clock	Show the configuration

1.2.4 Configure summer time function

When summer time configuration is enabled, the time that is accord with SNMP will be transformed into local summer time. The steps are as follows;

Step	Command	Description
1	clock summer-time enable	Enable the summer time function. This function can also be shutdown if you do not need it
2	clock summer-time recurring {<1-4> last} { sun mon tue wed thu fri sat } {<1-12> MONTH } <0-23> <0-59> {<1-4> last} { sun mon tue wed thu fri sat } {<1-12> MONTH } <0-23> <0-59> <1-1440>	Configure system time in turn: hour, minute, second, year, month, day ·<1-4> the starting week, last stands for the last week Sun Sunday Mon Monday Tue Tuesday Wed Wednesday Thu Thursday Fri Friday Sat Saturday <1-12> MONTH means month, MONTH stands for the month that you inputs <0-23> means hour

<0-59> means minute

<1-4> | **last** means ending
week

Last the last week

Sun Sunday

Mon Monday

Tue Tuesday

Wed Wednesday

Thu Thursday

Fri Friday

Sat Saturday

<1-12> | **MONTH** means
month, **MONTH** stands for the
month that you inputs

<0-23> means hour

<0-59> means minute

<1-4> | **last** means ending
week

3	show clock summer-time recurring	Show summer time configuration
----------	---	-----------------------------------

⚠ Notice:

- When configuring the system time manually, if the system uses summer time, then each year April second Sunday morning 2 O' clock to 3 O' clock is not existed. For example, the summer time is set to from the second Sunday 2:00 am of April to the second Sunday 2:00 am of September each year; when the clock in this time domain is changed one hour faster, or 60 minutes' excursion, then the time between the second Sunday morning 2 and 3am is not existed. The result of manual configuration to the time in this time segment will be failure.

1.2.5 Monitoring and maintenance

Use the following commands to show clock information:

Command	Description
show clock	Show clock information

Use the following commands to show clock information and summer time state:

Command	Description
show clock	Show clock summer time
summer-time-recurring	

1.2.6 Typical configuration example

Configure the switch time zone and summer time

```
Raisecom#clock timezone - 10 30
```

```
set successfully!
```

```
Raisecom#clock set 11 14 20 2005 3 28
```

```
set successfully!
```

```
Raisecom#show clock summer-time-recurring
```

```
Current system time: Mar-28-2005 11:15:22
```

```
Timezone offset: -10:30:00
```

```
Summer time recurring: Disable
```

```
Raisecom#clock summer-time enable
```

```
set successfully!
```

```
Raisecom#clock summer-time recurring 2 sun 3 2 0 2 sun 9 2 0 60
```

```
set successfully!
```

```
Raisecom#show clock summer-time-recurring
```

```
Current system time: Mar-28-2005 12:15:53
```

```
Timezone offset: -10:30:00
```

```
Summer time recurring: Enable
```

```
Summer time start: week 02 Sunday Mar 02:00
```

```
Summer time end: week 02 Sunday Sep 02:00
```

```
Summer time Offset: 60 min
```

1.3 Configure SNTP function

1.3.1 Default SNTP protocol configuration

Function	Default value
SNMP server address	Not existed

1.3.2 Configure SNTP protocol function

When SNTP server address is configured, the equipment will try to get clock information from SNTP server every 10 seconds, and the maximum exceeding time of SNTP getting clock information is 10 seconds.

Step	Command	Description
1	config	Enter global configuration mode
2	sntp server A. B. C. D	Configure SNTP server address
3	exit	Return to privileged EXEC mode
4	show sntp	Show the configuration

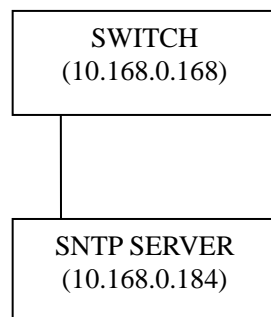
1.3.3 Monitoring and maintenance

Use the following commands to show the switch time management running state and configuration.

Command	Description
show clock	Show clock information

1.3.4 Typical configuration example

For example: the topology structure is shown below:



➤ Destination:

The switch will get system time from SNTP server

➤ The configuration steps:

Step 1: show the current default system clock

Raisecom(config)#**show clock**

Current system time: Jan-01-2000 08:00:37

Timezone offset: +08:00:00

Step 2: configure SNTP server address

Raisecom(config)#**sntp server 10.168.0.184**

set successfully!

JUN-15-2008 20:23:55 CONFIG-6-Get SNTP time , Date is Jun-15-2008 Time is 20:23:55

Raisecom(config)#**exit**

Step 3: show SNTP configuration

Raisecom#**show sntp**

SNTP server address:10.168.0.184

SNTP Server	Stratum	Version	Synchronize Time

10.168.0.184	15	1	2008-6-15 20:23:55

Step 4: show current system clock

Raisecom#**show clock**

Current system time: Jun-15-2008 20:24:33

Timezone offset: +08:00:00



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